REMARKS

The above amendment amends the specification to indicate the serial numbers of related applications that were filed on the same day as the present application. No new matter is added.

Claims 1-16 were pending in the above-identified application when last examined and are amended as indicated above.

Claims 6 and 8 were objected to for containing informalities. In particular, "the die" in claims 6 and 8 lacked antecedent basis. In response, claim 1 is amended to provide the necessary antecedent basis. Applicants accordingly request reconsideration and withdrawal of the objection to claims 6 and 8.

Claims 1, 6, 7, 10, and 14 were rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Pat. No. 5,883,988 (Yamamoto). Applicants respectfully traverse the rejection.

Independent claim 1 distinguishes over Yamamoto at least by reciting, "a die mounted on the sub-mount and containing an edge-emitting laser that is electrically coupled to the conductive traces; and a reflector positioned to reflect an optical signal from the edge-emitting laser through the sub-mount." Yamamoto fails to disclose or suggest mounting a die containing a laser on a sub-mount that includes electrical traces for the laser and still permits transmission of an optical signal through the sub-mount.

Yamamoto in Fig. 4A illustrates a structure including a photoreception device 401 mounted on a support substrate 1. Photoreception device 401 includes a flat surface 3A that refracts light from a waveguide 13 into photoreception device 401 where the light can be absorbed and converted to an electrical signal. Fig. 2 of Yamamoto similarly shows a structure including a photoreception device 202 on a sub-mount 14 that reflects light from waveguide 13 into device 202. However, Yamamoto fails to disclose or suggest mounting a die including a laser on photoreception devices 202 or 401 or on sub-mount 14. Accordingly, claim 1 is patentable over Yamamoto.

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Claims 6 and 7 depend from claim 1 and are patentable over Yamamoto for at least the same reasons that claim 1 is patentable over Yamamoto.

Claim 6 further distinguishes over Yamamoto by reciting, "the reflector comprises a portion of an inner wall of a cavity in a cap overlying the die." Yamamoto fails to disclose or suggest a cap or a lid having a wall that acts as a reflector.

Independent claim 10 distinguishes over Yamamoto at least by reciting, "mounting

a die containing a laser on a surface of a sub-mount; electrically connecting the laser to electrical traces in the sub-mount; and attaching a reflector to the sub-mount in a position such that an optical signal from the laser is reflected through the sub-mount." As noted above, Yamamoto fails to disclose or suggest mounting a die containing a laser on a sub-mount through which an optical signal is directed. Accordingly, claim 10 is patentable over Yamamoto.

Claim 14 depends from claim 10 and is patentable over Yamamoto for at least the same reasons that claim 10 is patentable over Yamamoto.

For the above reasons, Applicants request reconsideration and withdrawal of the rejection under 35 U.S.C. § 102.

Claims 2 and 11 were rejected under 35 U.S.C. § 103(a) as unpatentable over Yamamoto in view of U.S. Pat. No. 5,867,620 (Bunin). Applicants respectfully traverse the rejection.

Claim 2 distinguishes over the combination of Yamamoto and Bunin by reciting, "an alignment post attached to the sub-mount where the optical signal emerges from the sub-mount." As noted above, Yamamoto discloses structures including photoreception devices. The Examiner indicated that it would have been obvious to add an alignment post such as suggested by Bunin to the structure of Yamamoto. Applicants respectfully disagree because the photoreception devices of Yamamoto convert optical signals to electrical signals. Yamamoto fails to suggest any optical signal emerging from the photoreception device. Accordingly, Yamamoto and Bunin fail to suggest a need for or a way to add an alignment post "where the optical signal emerges from the sub-mount" as recited in claim 2.

Claim 11 similarly distinguishes over the combination of Yamamoto and Bunin by reciting, "attaching an alignment post to the sub-mount where the optical signal emerges." As noted above, Yamamoto is directed to a photoreception device and fails to suggest an emerging optical signal for which an alignment post can be attached.

For the above reasons, Applicants request reconsideration and withdrawal of this rejection under 35 U.S.C. § 103.

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Claims 3-5 were rejected under 35 U.S.C. § 103(a) as unpatentable over Yamamoto. Applicants respectfully traverse the rejection.

Claims 3-5 depend from claim 1 and are patentable over Yamamoto for at least the reasons given above to show that claim 1 is patentable over Yamamoto.

For the above reasons, Applicants request reconsideration and withdrawal of the rejection under 35 U.S.C. § 103.

Claims 8, 9, 12, and 13 were rejected under 35 U.S.C. § 103(a) as unpatentable over Yamamoto in view of U.S. Pat. App. Pub. No. 2001/0023920 (Ando). Applicants respectfully traverse the rejection.

Claims 8 and 9 depend from independent claim 1, which is patentable over Yamamoto for at least the reasons given above. In particular, Yamamoto fails to suggest mounting a laser on a sub-mount through which the optical signal from the laser is directed. The Examiner cites Ando for disclosing encapsulation of optical devices using transparent material such as silicone. However, such teaching does not provide the elements of claim 1 that are missing from Yamamoto. Accordingly, claims 8 and 9 are patentable over the combination of Yamamoto and Ando.

Similarly, claim 12 and 13, which depend from claim 10, are patentable over the combination of Yamamoto and Ando for at least the same reasons that claim 10 is patentable over Yamamoto.

For the above reasons, Applicants request reconsideration and withdrawal of this rejection under 35 U.S.C. § 103.

Claims 15 and 16 were rejected under 35 U.S.C. § 103(a) as unpatentable over Yamamoto in view of U.S. Pat. No. 5,822,352 (Mizutani). Applicants respectfully traverse the rejection.

Claims 15 and 16 depend from claim 10, which is patentable over Yamamoto for at least the reasons given above. In particular, Yamamoto fails to disclose or suggest, "mounting a die containing a laser on a surface of a sub-mount; electrically connecting the laser to electrical traces in the sub-mount; and attaching a reflector to the sub-mount in a position such that an optical signal from the laser is reflected through the sub-mount." As noted above, Yamamoto fails to disclose or suggest mounting a die containing a laser on a sub-mount through which an optical signal is directed. The Examiner cites Mizutani for teaching crystal growth of multiple laser structures on a wafer. However, such teaching when considered in combination with Yamamoto does not affect the above reasons for the patentability of claim 10. Accordingly, claim 10 and claims 15 and 16 are patentable over the combination of Yamamoto and Mizutani.

For the above reasons, Applicants request reconsideration and withdrawal of this rejection under 35 U.S.C. § 103.

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Claims 17-19 are added. New claim 17 depends from claim 10 and is patentable for at least the same reasons that claim 10 is patentable. New claims 18 and 19 depend from claim 1 and are patentable for at least the same reasons that claim 1 is patentable.

In summary, claims 1-16 were pending in the application. This response amends claims 1 and 10 and adds claims 17-19. For the above reasons, Applicants respectfully request allowance of the application including claims 1-19.

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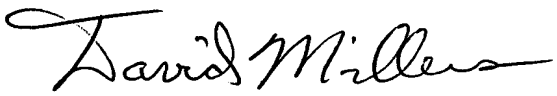

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